

THE LIGHT FARM TRACTOR



SOLVES THE
FARM LABOUR
PROBLEM

CANADIAN ALLIS-CHALMERS, LIMITED



Fig. 1—An Allis-Chalmers 10-18 H.P. Farm Tractor plowing on the farm of Mr. Peter Wilson, near Cobden, Ont.

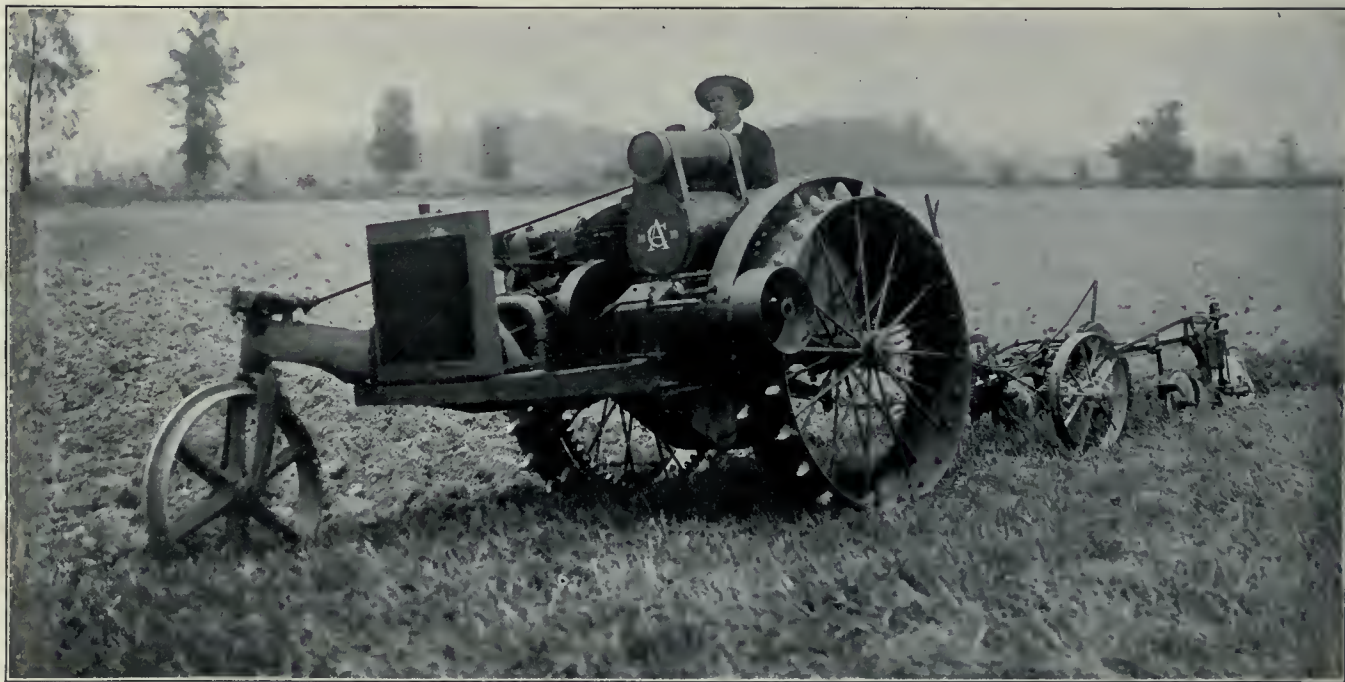


Fig. 2—An Allis-Chalmers 10-18 H.P. Farm Tractor plowing on the farm of Mr. J. S. Ainslee, near Comber, Ont.

Farm Tractors, A National Necessity, But—



THE practical farmer's assistance is required to make the most efficient use of them. The Allis-Chalmers Farm Tractor described in these pages is not a dreamy inventor's idea. It was designed and built after a thorough study of the tractor situation from the point of view of the practical farmer—what he wants and expects in a tractor, what a really satisfactory farm tractor should be and do. Then, before it was placed on the market, it was tested under the most severe conditions that could possibly be met in actual farm use.

Co-operation of the Farmer

WE believe we have here a thoroughly efficient and practical farm tractor, both for dragging or hauling and for power purposes. With a few lessons almost anyone can learn to operate the Allis-Chalmers Farm Tractor, but its adaptation to all the varied uses on a farm, to which such a self-propelling power plant can be put, rests mainly with the practical farmer. His sympathetic co-operation is vitally necessary if full advantage is to be taken of the opportunity now offered to substitute cheap mechanical power for high-priced manual labour. There is a world-wide demand for more food, and prices of farm products are higher than ever before but, unfortunately, there is a world-wide scarcity of labour. The farm tractor affords the one solution of the farm labour problem, and the highest degree of tractor efficiency yet attained is found in the Allis-Chalmers Farm Tractor.



Fig. 3—Two Allis-Chalmers 10-18 H.P. Farm Tractors, plowing and disking, Central Experimental Farm. Ottawa

Good In All Sorts of Soil

THE Allis-Chalmers 10-18 H.P. Farm Tractor, that is 10 H.P. on the draw bar or 18 H.P. on the pulley, completely covers the requirements of a farm of 80 to 320 acres at a reasonable cost. It is easily steered, either to the right or to the left—the steering wheel running in the furrow steers the tractor automatically when plowing. You can make a square turn at the end of your field and handle tractor and plow with no more waste of space than with a two-horse team. It is always under the operator's instant and easy control. It makes good in all sorts of soil and for all kinds of work. It's a tractor you can safely buy because the *service* and the *value* are in it.

Wide Range of Usefulness

THE Allis-Chalmers Farm Tractor is a light, strong, durable machine which will pull three plows in almost any soil, pull disc harrows, drag harrows, rollers, crushers, pulverisers, drills, binders, wagons, road graders, anything that is required of it; and, being fitted with a pulley, will do the threshing, pumping, sawing, silo-filling, corn shelling—all kinds of belt work anywhere you want to use it. In plowing it takes the place of six horses, and the motor, being specially designed for this tractor, has great power for its weight. It uses either gasoline or kerosene, and consequently its range of service is proportionately increased. With kerosene it has made some remarkable records, using a surprisingly low quantity per horse power hour.



Fig. 4—Threshing Wheat with an Allis-Chalmers 10-18 H.P. Farm Tractor

A Self-Propelling Power Plant

THE Allis-Chalmers Farm Tractor is a self-propelling power plant and will furnish power for any of the ordinary operations on the farm, being equipped with a pulley for that purpose. One important use is to pulverise limestone for acid soils. The liming of soils is a very old practice. It was practised by Roman farmers more than two thousand years ago, and probably the Chinese were the first to use lime on the soil. Any of the Agricultural Colleges will be glad to analyse samples to determine whether a particular soil suffers from acidity. But it is important to note that a jaw crusher will not do the work of a grinder on limestone, because the moisture in the stone causes the fine material to pack in between the jaws, and breakage of the machine results. The hammer principle should be sought, and the Allis-Chalmers "Hummer" has been designed specially for the work of pulverising limestone. A special bulletin, No. 1452, gives a complete description of the "Hummer," and also illustrated reports on the use of pulverised limestone for acid soils at different places.

Although the farm tractor is generally associated with plowing, it has a greater field of usefulness as a self-propelling power plant. Plowing, harrowing, seeding, and other field operations occupy a comparatively small portion of the whole year, but the tractor may be used for power purposes at any time. The practical farmer will not allow his investment to stand idle for a considerable portion of the year, but will utilise it, perhaps, in sawing wood for the winter, in pumping out a flooded cellar, in chopping food or grinding corn for the cattle, in crushing stone for a road or a concrete building, in operating any farm machine to which a belt can be attached from the pulley of the tractor.



Fig. 5—An Allis-Chalmers 10-18 H.P. Farm Tractor operated by a young lady who had no previous experience with it

Requires No Skilled Operator

NOTWITHSTANDING its power and its adaptability, the Allis-Chalmers Farm Tractor is easy to run and does not require a skilled operator. The women of Canada, who have already taken a large part in munition making and other patriotic work, will find here scope for equally patriotic and certainly more pleasant effort for their country. Farmers' boys of twelve to fourteen and indeed city boys who are volunteering in such large numbers for work on the farm during summer months, after a little practice with these machines, will be able to do the work of scores of men. To show how easily it is operated: When the first 10-18 Farm Tractor arrived in Toronto, one of our Head Office staff who had never seen a tractor in operation or had any previous experience with gasoline engines, was instructed to superintend its unloading and then assemble the fittings on the machine and start it up. By following implicitly the rules given in our "Instruction Book" he accomplished this successfully and then on the following day drove the tractor, under its own power, to the farm 23 miles away, where it was to be put in service for the Ontario Department of Agriculture—a record performance for a novice. It is therefore evident that the practical farmer, by the use of these machines, can direct work which is vitally necessary but which it will be impossible to do otherwise owing to the scarcity of labour.



Fig. 6—Joy for the Boy

Joy for the Boy

IT was a great day for the small boy shown in the illustration on the opposite page. The tractor was plowing on the farm of his father, Mr. Peter Wilson, near Cobden, Ont., and he watched it at a distance, but only for a short time. Then he trudged alongside and offered his advice on the fine points of plowing, and finally expressed the opinion that he could "run that thing." He was given a chance, but he was so small that he had to stand on his toes to see where he was going. Everything went fine until he approached the fence at the bottom of the field. Some of the spectators appeared to be anxious, and even the bull nearby looked worried, but there was no occasion for alarm. He quickly tripped the plows, whirled the steering wheel and rounded the corner without a tremor. If there had been a "movie" at the scene the next picture would have shown him sailing back with a smile that could not come off. That night he dreamed of other worlds, or, rather, other fields to conquer.



Fig. 7—Wonderful Record by an Allis-Chalmers 10-18 H.P. Farm Tractor. See opposite page

Cost of Operation

THE practical farmer will ask for the cost of operation, and here is one out of many answers to a practical question. Fig. 7 shows how 175 acres of wheat field were listed in 115 hours.

This Allis-Chalmers Tractor, pulling a two-row lister, started in to work at 5 p.m., Monday, May 7, 1917, and finished at 7 p.m., Saturday, May 12. During this 122 hours the tractor ran continuously, with the exception of about 7 hours lost in changing crews, taking fuel, oiling and filling grease cups. A total of 175 acres was listed—a little better than $1\frac{1}{2}$ acres per hour, at a total cost of 33 cents per acre, including oil, fuel and help.

This remarkable record was made in wheat ground on the Rathburn farm near Downs, Kansas, this spring. No water was added to the radiator from start to finish. No wrench was used on the tractor from start to finish. At night an ordinary reflector lantern on the front of the tractor enabled the operator to steer. This record is the more remarkable because the tractor was run by men who had not had much tractor experience.

Rigid and Dust Proof

THE Allis-Chalmers 10-18 H.P. Farm Tractor is the only tractor with a one-piece steel heat-treated frame—the only tractor frame with no rivets to work loose—that cannot sag under heaviest strains. This means that Allis-Chalmers motor bearings can never get out of line through frame weakness.

All bearing surfaces and wearing parts are absolutely protected from dust and grit—the arch enemies of the tractor. The long life of the Allis-Chalmers Tractor is due largely to this perfect protection from dust.



Fig. 8—An Allis-Chalmers 10-18 H.P. Farm Tractor plowing on the farm of Mr. J. S. Ainslee, near Comber, Ont.

A Light Weight Farm Tractor

THE Allis-Chalmers 10-18 H.P. Farm Tractor is of sturdy construction and has ample strength to meet all the demands placed on it, yet it is one of the lightest farm tractors made, weighing 4,800 pounds. The light weight is a decided advantage, for power is not needlessly expended in haulage and the tractor will work in soft ground without packing. In fact, the Allis-Chalmers 10-18 H.P. Tractor can be used in any field that can be cultivated with horses. The fewness of its working parts makes it easy to understand and operate and eliminates danger of breakdowns—it requires very little attention. You do not have to be an expert or possess a natural bent for machinery in order to run this tractor successfully. It is a common sense tractor with which the average man can do work on the average farm easier and better. There's nothing complicated about it—no freakish ideas in construction—it is a serviceable, sensible machine from start to finish. The light weight Farm Tractor is not an experiment, but a proved success.

Guaranteed to Give Satisfaction

THE Allis-Chalmers Farm Tractor is guaranteed to be made of first-class materials, to be free from defects and to give satisfactory service for the purposes for which it is intended. At any time within one year of purchase, we will replace free any part which breaks through defect of materials or workmanship, provided failure was not due to neglect or abuse.



Fig. 9—An Allis-Chalmers 10-18 H.P. Farm Tractor plowing on the farm of Mr. W. H. Hood, near Unionville, Ont.

Specifications of the Allis-Chalmers Farm Tractor

Weight	4800 pounds
Height	6 feet 3 inches to top of steering wheel
Length, Overall	11 feet 8 inches
Wheel Base, length	96 inches
Width, outside to outside of drive wheels	68 inches
Drive Wheels	56 inches diameter, 12 inch rim
Front Wheel	32 inches diameter, 6 inch rim
Frame	One-piece steel casting
Clearance	27 inches under frame
Motor, 5¼ x 7 inch, two-cylinder opposed, designed and built expressly for this tractor.	
H. P.	Belt 18, Drawbar 10
Speed	720 R. P. M.
Fuel Capacity	17½ gallons
Fuel Used	Gasoline or kerosene
Differential	Cut gear with hardened steel pinions
Transmission	Enclosed gears running in oil
Guiding Device	Automatic
Ignition	K.W. high tension Magneto
Cooling System	Large Automatic type radiator with centrifugal pump
Clutch	Two shoe, expanding
Draw Bar	Combination type or Rigid

Echoes of the Tractor Demonstration

At Fremont, Nebraska, week of August 6, 1917

(From *The Farm Implement News* report of the S.A.E. Meeting).

Keeping in mind the viewpoint of better service from present tractors, we have laid special emphasis on the farmer's duties in operating farm power equipment. I believe the established tractor manufacturers are fully conscious of their great responsibility in producing more efficient tractors, and in greater numbers. With the farmer and the manufacturer each doing his full share, the resultant tractor service will go far toward solving the nation's food problem.

.

The engine, transmission and other working parts will last longer if a new tractor pulls a light load for the first two or three days. Too often the new plowing outfit is put on the toughest piece of ground on the farm in order to try it out. Automobile manufacturers of long experience are sending out instructions with new cars to the effect that they should not be driven faster than 20 or 25 miles per hour for the first few hundred miles. Tractor manufacturers and owners should take the lesson.

.

Service is an important item. The only service the farmer wants is the service of the machine. He does not want ser-

vice from the manufacturer or the dealer, but wants the same kind of service that he gets from his cultivator, his harrow, and his other implements. This is the service that he wants to get, and is going to have before long. It seems that, to take care of the service, the problem is to educate the farmer to run the machine, and this can be done. In case after case, farmers have purchased second-hand tractors, that had been condemned because the original owners could not make them run, while the new purchasers secured excellent satisfaction from them.

.

The dealer and the traveller should keep away from such statements as number of plows, capacity, inches deep, etc., etc., in positive statements. It is all right to maintain that, should the conditions be favourable, the tractor will pull a certain size of machine or a certain number of plows, but the tangible facts should be that this machine will develop so many pounds at the draw-bar, or so much power at the belt, and then, as in buying a horse, the farmer can utilise that power as he may see fit, either pulling one plow 12 inches deep or three plows 4 inches deep.

Echoes of the Tractor Demonstration—*Con.*

Belt work is the one most important thing for the tractor to do. It exceeds even the amount of plowing that is done by the tractor.

.

It will not be possible to give the tractor purchaser satisfactory tractor service until such time as tractors are sold to the ultimate purchaser for cash on delivery. This may apply more particularly to tractors selling for \$2,000, or less, but the majority of tractors now sold are under \$2,000, so let us deal with the majority. The reason for this is found in the difference in the mental attitude of the tractor purchaser who pays cash and the one who buys on time. The difference is simply this: the cash purchaser owns the tractor from the start and quite naturally takes greater interest in it, with a greater desire to learn all there is to know about its operation and care, than the purchaser who does not own the tractor until it is fully paid for. Until tractors are sold to the purchaser for cash on delivery entirely, tractor companies will be attempting to give service to two classes of purchasers who are not on an equal footing.

.

Tractor service, like charity, must begin at home. We must teach the farmer to take care of his own machine if we want him to have real service.

It is a well-known fact that an automobile requires more attention during the first 500 miles that it is in use than it does for the next three or four thousand. This is particularly true of a tractor. The tractor covers in the first two or three days it is in use what is equivalent to 500 miles' travel of the automobile. It must have careful and exact attention over that period.

.

The technical and farm press have accomplished much in telling farmers how to plan the work of their tractors, showing the importance of proper care and operation and teaching the farmer to show the right spirit toward the machine. Stories of experiences in power farming can be made interesting reading, and offer an excellent means of teaching the farmer that his success with a tractor largely depends on his own efforts.

.

F. W. Kamm, Manager of the Farm Machinery Department, Allis-Chalmers Mfg. Co., looked happy all week. He appeared at each of the eight official demonstrations last year and one or two of the unofficial ones. To crowd them all into one big show this year would please anyone who made the circuit last summer. Mr. Kamm said that he was very well satisfied with the show, that his tractors had performed with distinction, and that he had not a complaint of any kind to make.

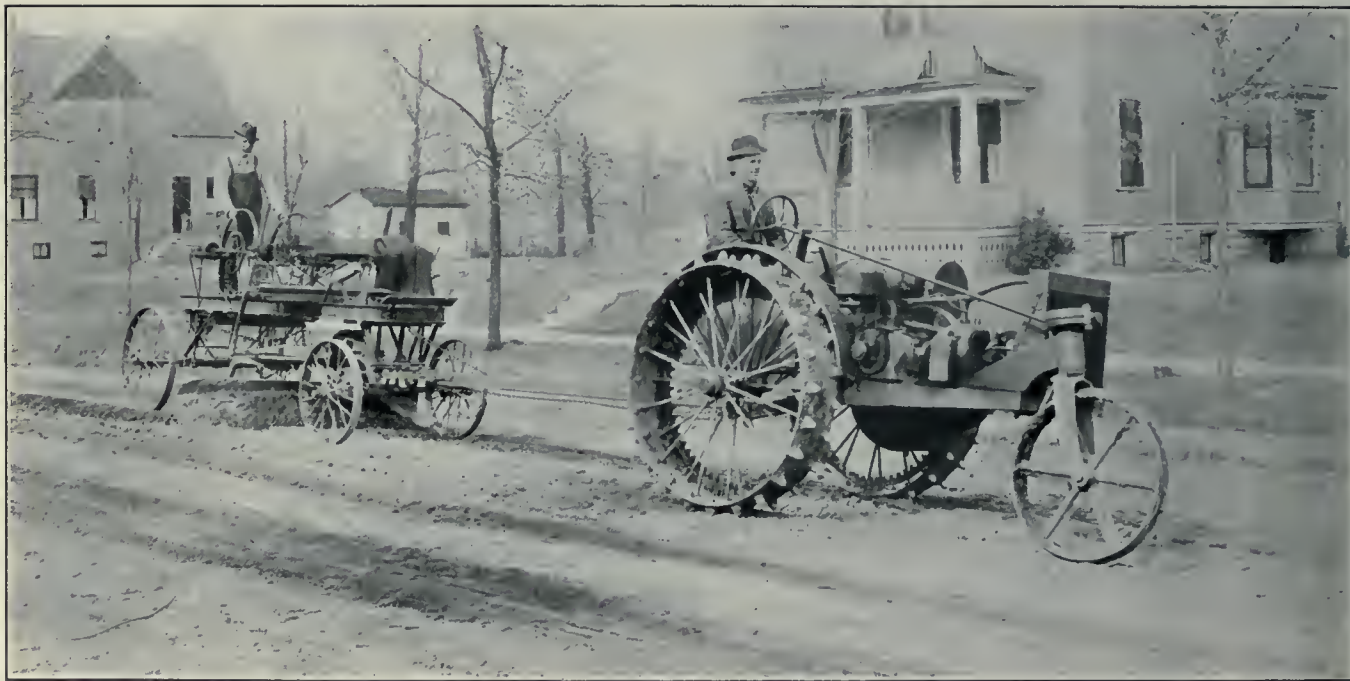


Fig. 10—Street Grading with an Allis-Chalmers 10-18 H.P. Farm Tractor



Fig. 11—An Allis-Chalmers 10-18 H.P. Farm Tractor plowing on the farm of Mr. J. S. Ainslee, near Comber, Ont.



PRINCIPAL PRODUCTS CLASSIFIED



Product	Bulletin	Product	Bulletin	Product	Bulletin	Product	Bulletin
AIR BRAKES	1508	CONDENSERS		CRANES		ENGINES—Con.	
AIR COMPRESSORS		Barometric		Electric		Gasoline	13, 16
Over 1500 c. ft.	1531	Jet		Hand		Hoisting	1
Medium	42	Surface		Travelling		Logging	52
Portable up to 50 c. ft.	1523					Oil	310 and 1532
ARCHITECTURAL		CONTRACTORS' PLANT		CRUSHING MACHINERY		Pumping	1634
BRONZE AND		Air Compressors	42	Ballast Plants	1411	Steam	1529
IRON WORK	2000, 2004	Buckets, Excavating	600	Ball Granulators	1813	Twin	1722
BOILERS		Cableways, Lidgerwood	31	Blake Crushers	1451		
Water Tube		Concrete Mixers		Conveyors	1411		
Horizontal Return Tubular		Core Drills	301	Crushing Rolls	1811, 1812		
BRIDGES, Steel		Derricks, Lidgerwood	3	Dodge Crushers	1451	EXCAVATING MACHINERY	
Bascule Bridges		Drills, Core	301	Elevators	1411	FARM TRACTORS	604
Highway Bridges		" Hammer	302	Feeders	1432	FLOUR MILL MACHINERY	
Railway Bridges		" Piston	303	Gates' Breakers	1448	Attrition Mills	2
		" Rock	303	Hammer Crushers	1452	Beltng	133
		" Mountings	304	Jaw Crushers	1451, 1810	Bollers, Universal	1213
		Drill Steel	309	Perforated Metals	1425	Bolting Cloth	2
		Duplex Pumps	36	Revolving Screens	1436	Conveyors	2
		Excavators, Cableway	60	Steel Jaw Crushers	1810	Corn Mills	1212
		Hoists, Gasoline	16	See also Mining, Cement and Con-		Dusters	1216
		" Steam	11	tractors' Machinery		Dust Collectors	2
CABLEWAYS	31	Lidgerwood Hoists	11	DRILLS, ROCK		Feeders	1212
CEMENT MACHINERY		Pile Hammers	305	Core Drills	301	Feed Mills	1212
Ball Mills	1444	Pumps, Duplex	36	Core Drills	302	Flaking Machines	1212
Revolving Screens	1425	" Steam	36	Hammer Drills	303	Flour Dressers	1214
Rotary Kilns and Coolers	1430	" Centrifugal	1632	Piston Drills	304	Granulators	1212
Tube Mills	1410	Rock Drills	303	Mountings and Accessories		Grinding and Corrugating	1212
Tube Mill Linings	1440	Steam Shovels				Middlings Mills	2
See also Crushing and Mining		Tractor Trucks		ENGINES		Oat Rolls	2
Machinery				Blowing	1902	Packers	1215
"COCHRANE" STEAM		See also Architectural Bronze and		Cableway	31	Plate Choppers	2
SPECIALTIES		Iron Work, Crushing and Mining		Corliss	1529	Purifiers	1214
		Machinery and Structural Steel.	4 - -	Diesel	1532	Reels, Centrifugal	1214
				Gas	38 and 1535	Roll Corrugations	1212
						Rolls	1212



PRINCIPAL PRODUCTS CLASSIFIED—Con.



Product	Bulletin	Product	Bulletin	Product	Bulletin	Product	Bulletin
FLOUR MILL MACHINERY—		LOGGING MACHINERY	52	PUMPING MACHINERY		STEAM ENGINES	
Con.				Air Lift Pumps	308	See Engines	
Roller Mills	1212	"McKIERNAN-TERRY"		Boiler Feed Pumps	36	STEAM SHOVELS	
Scalpers	1214	PRODUCTS		Centrifugal Pumps	1432	STEAM SPECIALTIES	
Sifters	1214	MINING MACHINERY		Fire Pumps—Steam	35	Feed Water Heaters	710
" Perfection	2	Blowers	1417A	" Electric	2001	Feed Water Meters	700
Separators	2	Classifiers	1800, 1806	High Duty Pumping		Multiport Valves	601
Supplies	2	Concentrating Plants	1437	Engines	1634	Pump Governors	306
Wheat Heaters and		Copper Converting	1424, 1428	Sewage Pumps	1611	Reducing Valves	307
Steamers	2	Cyanide Plants		Turbine Pumps	1632	Steam Traps	513
GAS PRODUCERS	8	Flotation Equipment		Underwriters' Fire Pumps	35	Steam Separators	550
HOISTS		Furnaces	1443, 1804, 1417A			Water Softening	682
Air	311	Gold and Silver Mills	131	ROAD MAKING MACHINERY		STRUCTURAL STEEL	
Contractors'	11, 16	Lead Refining Plants	1417A	Concrete Mixers		Building Work	
Electric	12, 1445	Prospecting Mills	1433	Crushing Plants	1411	Penstocks	
Gasoline	16	Roasting Furnaces	1443, 1804	Excavators		Railway Turn-tables	
Mining	1, 7, 1445, 1803	Sampling Plants	1802	Road Rollers		Theatre Trusses	
Steam	1, 1803	Skips	1805	Trenching Machinery		Transmission Towers	
HYDRAULIC MACHINERY		Smelting Plants	1417A	SAW MILL MACHINERY		Water Tanks	
Governors, Oil Pressure	1636	Stamps, Gravity	1432A	Band Mills	1700	Water Towers	
Penstocks		" Steam	1408	Carriages	1711	TIMBER TREATING	
Pressure Regulators	1636	Tube Mills	1410	Circular Saw Mills	1724	AND PRESERVING	
Pumps, Centrifugal	1632	Ventilating Machinery	1418	Conveying Machinery	1707	MACHINERY	1439A
Turbines, Francis	1636	See also Cement, Crushing, Con-		Cutting-off Saws	1720	TRACTOR TRUCKS	1513
Wheels, Impulse	1636	tractors', Hoisting and Pump-		Edgers	1723	TURBINES	
Valves, Butterfly	1636	ing Machinery.		Feeds	1722	Steam	1084
" Relief	1636	PIPE—CAST IRON		Lath Mills and Bolters	1704	Water	1636
"LIDGERWOOD"				Log Machinery	1720	WATERWORKS SUPPLIES	
APPARATUS		PLATE AND TANK WORK		Set Works	1725	Cast Iron Pipe	
LOCOMOTIVES				Slashers	1721	Cast Iron Specials	
Electric		POWER TRANSMISSION		Trimmers	1721	Hydrants	
Steam		MACHINERY	133	and all Accessories		Valves	
				"SMITH" GAS PRODUCERS			

Strong Points of the Allis-Chalmers Farm Tractor

Absolutely Dust Proof—All bearings and vital parts completely protected from dust and grit.

Superior Construction—Few parts, all easily accessible. High-grade materials—strength plus efficiency.

Ease of Operation—Under instant control of one man—no expert mechanical ability required.

High Clearance—27 inches under frame.

Turns to Right or Left—Almost within its own length.

Light Weight—Power applied to *actual work*—not needlessly expended to propel machine.

Equipped with Brakes—Either drive wheel can be locked to facilitate short turning.

Wide Range of Use—An all-purpose tractor for both traction and belt work.

Powerful Motor—Built expressly for the tractor, by the company's own mechanics and under its direct supervision.

Long Life—Assured by substantial construction and design that reduces wear-and-tear and friction to the lowest possible point.

Substantial Backing—Made in a big modern plant by a company everywhere recognized as a leader in the manufacture of machinery.

THE 10-18 H.P. FARM TRACTOR

A SELF-PROPELLING POWER PLANT

FOR FURTHER PARTICULARS WRITE TO THE
FARM TRACTOR DEPARTMENT

CANADIAN ALLIS-CHALMERS, LIMITED

KING AND SIMCOE STREETS
TORONTO

